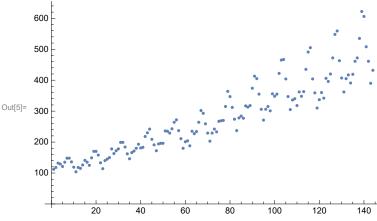
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<code>In[6]:= training = RandomSample[List /@Most[#] → List@Last[#] & /@ (Partition[data, 11, 1])]</code> 【乱数のサンプル 【リスト 【最後の… リスト最後 重複しないサブリストに分割 $\texttt{Out[6]=} \ \left\{ \left\{ \left\{ 148 \right\}, \left\{ 136 \right\}, \left\{ 119 \right\}, \left\{ 104 \right\}, \left\{ 118 \right\}, \left\{ 115 \right\}, \left\{ 126 \right\}, \left\{ 141 \right\}, \left\{ 135 \right\}, \left\{ 125 \right\} \right\} \rightarrow \left\{ 149 \right\}, \left\{ 141 \right$ $\{\{191\}, \{172\}, \{194\}, \{196\}, \{196\}, \{236\}, \{235\}, \{229\}, \{243\}, \{264\}\} \rightarrow \{272\},$ $\{\{230\}, \{242\}, \{209\}, \{191\}, \{172\}, \{194\}, \{196\}, \{196\}, \{236\}, \{235\}\} \rightarrow \{229\},$ $\{\{171\}, \{180\}, \{193\}, \{181\}, \{183\}, \{218\}, \{230\}, \{242\}, \{209\}, \{191\}\} \rightarrow \{172\},$ $\{\{204\}, \{188\}, \{235\}, \{227\}, \{234\}, \{264\}, \{302\}, \{293\}, \{259\}, \{229\}\} \rightarrow \{203\}, \{236$ $\{\{237\}, \{211\}, \{180\}, \{201\}, \{204\}, \{188\}, \{235\}, \{227\}, \{234\}, \{264\}\} \rightarrow \{302\},$ $\{\{363\}, \{435\}, \{491\}, \{505\}, \{404\}, \{359\}, \{310\}, \{337\}, \{360\}, \{342\}\} \rightarrow \{406\},$ $\{\{201\}, \{204\}, \{188\}, \{235\}, \{227\}, \{234\}, \{264\}, \{302\}, \{293\}, \{259\}\} \rightarrow \{229\},$ $\{\{188\}, \{235\}, \{227\}, \{234\}, \{264\}, \{302\}, \{293\}, \{259\}, \{229\}, \{203\}\} \rightarrow \{229\},$ $\{306\}, \{315\}, \{301\}, \{356\}, \{348\}, \{355\}, \{422\}, \{465\}, \{467\}, \{404\}\} \rightarrow \{347\},$ $\{\{118\}, \{115\}, \{126\}, \{141\}, \{135\}, \{125\}, \{149\}, \{170\}, \{170\}, \{158\}\} \rightarrow \{133\},$ $\{\{348\}, \{363\}, \{435\}, \{491\}, \{505\}, \{404\}, \{359\}, \{310\}, \{337\}, \{360\}\} \rightarrow \{342\},$ $\{\{149\}, \{170\}, \{170\}, \{158\}, \{133\}, \{114\}, \{140\}, \{145\}, \{150\}, \{178\}\} \rightarrow \{163\}, \{170$ $\{391\}, \{419\}, \{461\}, \{472\}, \{535\}, \{622\}, \{606\}, \{508\}, \{461\}, \{390\}\} \rightarrow \{432\},$ $\{413\}, \{405\}, \{355\}, \{306\}, \{271\}, \{306\}, \{315\}, \{301\}, \{356\}, \{348\}\} \rightarrow \{355\},$ $\{422\}, \{465\}, \{467\}, \{404\}, \{347\}, \{305\}, \{336\}, \{340\}, \{318\}, \{362\}\} \rightarrow \{348\},$ $\{\{404\}, \{359\}, \{310\}, \{337\}, \{360\}, \{342\}, \{406\}, \{396\}, \{420\}, \{472\}\} \rightarrow \{548\},$ $\{\{284\}, \{277\}, \{317\}, \{313\}, \{318\}, \{374\}, \{413\}, \{405\}, \{355\}, \{306\}\} \rightarrow \{271\},$ $\{\{178\}, \{163\}, \{172\}, \{178\}, \{199\}, \{199\}, \{184\}, \{162\}, \{146\}, \{166\}\} \rightarrow \{171\},$ $\{\{209\}, \{191\}, \{172\}, \{194\}, \{196\}, \{196\}, \{236\}, \{235\}, \{229\}, \{243\}\} \rightarrow \{264\},$ $\{\{136\}, \{119\}, \{104\}, \{118\}, \{115\}, \{126\}, \{141\}, \{135\}, \{125\}, \{149\}\} \rightarrow \{170\},$ $\{\{196\}, \{236\}, \{235\}, \{229\}, \{243\}, \{264\}, \{272\}, \{237\}, \{211\}, \{180\}\} \rightarrow \{201\},$ $\{420\}, \{472\}, \{548\}, \{559\}, \{463\}, \{407\}, \{362\}, \{405\}, \{417\}, \{391\}\} \rightarrow \{419\}, \{419\}$ $\{\{270\}, \{315\}, \{364\}, \{347\}, \{312\}, \{274\}, \{237\}, \{278\}, \{284\}, \{277\}\} \rightarrow \{317\},$ $\{\{347\}, \{312\}, \{274\}, \{237\}, \{278\}, \{284\}, \{277\}, \{317\}, \{313\}, \{318\}\} \rightarrow \{374\},$ $\{\{237\}, \{278\}, \{284\}, \{277\}, \{317\}, \{313\}, \{318\}, \{374\}, \{413\}, \{405\}\} \rightarrow \{355\},$ $\{\{242\}, \{209\}, \{191\}, \{172\}, \{194\}, \{196\}, \{196\}, \{236\}, \{235\}, \{229\}\} \rightarrow \{243\},$ $\{\{269\}, \{270\}, \{315\}, \{364\}, \{347\}, \{312\}, \{274\}, \{237\}, \{278\}, \{284\}\} \rightarrow \{277\},$ $\{362\}, \{405\}, \{417\}, \{391\}, \{419\}, \{461\}, \{472\}, \{535\}, \{622\}, \{606\}\} \rightarrow \{508\},$ $\{\{193\}, \{181\}, \{183\}, \{218\}, \{230\}, \{242\}, \{209\}, \{191\}, \{172\}, \{194\}\} \rightarrow \{196\},$ $\{\{404\}, \{347\}, \{305\}, \{336\}, \{340\}, \{318\}, \{362\}, \{348\}, \{363\}, \{435\}\} \rightarrow \{491\}, \{363$ $\{306\}, \{271\}, \{306\}, \{315\}, \{301\}, \{356\}, \{348\}, \{355\}, \{422\}, \{465\}\} \rightarrow \{467\},$ $\{\{264\}, \{302\}, \{293\}, \{259\}, \{229\}, \{203\}, \{229\}, \{242\}, \{233\}, \{267\}\} \rightarrow \{269\},$ $\{\{229\}, \{242\}, \{233\}, \{267\}, \{269\}, \{270\}, \{315\}, \{364\}, \{347\}, \{312\}\} \rightarrow \{274\},$ $\{315\}, \{301\}, \{356\}, \{348\}, \{355\}, \{422\}, \{465\}, \{467\}, \{404\}, \{347\}\} \rightarrow \{305\},$ $\{318\}, \{374\}, \{413\}, \{405\}, \{355\}, \{306\}, \{271\}, \{306\}, \{315\}, \{301\}\} \rightarrow \{356\},$ $\{\{234\}, \{264\}, \{302\}, \{293\}, \{259\}, \{229\}, \{203\}, \{229\}, \{242\}, \{233\}\} \rightarrow \{267\},$ $\{\{356\}, \{348\}, \{355\}, \{422\}, \{465\}, \{467\}, \{404\}, \{347\}, \{305\}, \{336\}\} \rightarrow \{340\},$

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                               \{\{310\}, \{337\}, \{360\}, \{342\}, \{406\}, \{396\}, \{420\}, \{472\}, \{548\}, \{559\}\} \rightarrow \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463\}, \{463
                               \{\{302\}, \{293\}, \{259\}, \{229\}, \{203\}, \{229\}, \{242\}, \{233\}, \{267\}, \{269\}\} \rightarrow \{270\},
                               \{\{183\}, \{218\}, \{230\}, \{242\}, \{209\}, \{191\}, \{172\}, \{194\}, \{196\}, \{196\}\} \rightarrow \{236\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196\}, \{196
                               \{\{180\}, \{193\}, \{181\}, \{183\}, \{218\}, \{230\}, \{242\}, \{209\}, \{191\}, \{172\}\} \rightarrow \{194\},
                               \{374\}, \{413\}, \{405\}, \{355\}, \{306\}, \{271\}, \{306\}, \{315\}, \{301\}, \{356\}\} \rightarrow \{348\},
                               \{\{233\}, \{267\}, \{269\}, \{270\}, \{315\}, \{364\}, \{347\}, \{312\}, \{274\}, \{237\}\} \rightarrow \{278\},
                               \{\{140\}, \{145\}, \{150\}, \{178\}, \{163\}, \{172\}, \{178\}, \{199\}, \{199\}, \{184\}\} \rightarrow \{162\},
                               \{\{340\}, \{318\}, \{362\}, \{348\}, \{363\}, \{435\}, \{491\}, \{505\}, \{404\}, \{359\}\} \rightarrow \{310\},
                               \{\{129\}, \{121\}, \{135\}, \{148\}, \{148\}, \{136\}, \{119\}, \{104\}, \{118\}, \{115\}\} \rightarrow \{126\},
                               \{548\}, \{559\}, \{463\}, \{407\}, \{362\}, \{405\}, \{417\}, \{391\}, \{419\}, \{461\}\} \rightarrow \{472\},
                               \{\{148\}, \{148\}, \{136\}, \{119\}, \{104\}, \{118\}, \{115\}, \{126\}, \{141\}, \{135\}\} \rightarrow \{125\},
                                \{\{132\}, \{129\}, \{121\}, \{135\}, \{148\}, \{148\}, \{136\}, \{119\}, \{104\}, \{118\}\} \rightarrow \{115\},
                               \{\{267\}, \{269\}, \{270\}, \{315\}, \{364\}, \{347\}, \{312\}, \{274\}, \{237\}, \{278\}\} \rightarrow \{284\}\}
   In[7]:= net =
                              NetChain[{GatedRecurrentLayer[10], LinearLayer[1]}, "Input" → {10, 1}, "Output" → 1]
                                                                                 ゲート付き回帰層
                                                                                                                                                                                                                       線形層
                                                                                                                                                                                                                                                                                                                     入力を要求
                                                                                                                                                   Input
                                                                                                                                                                                                                                                matrix (size: 10 x 1)
                                                                               uninitialized
Out[7]= NetChain
                                                                                                                                                   GatedRecurrentLayer
                                                                                                                                                                                                                                              matrix (size: 10 x 10)
                                                                                                                                                                                                                                              vector (size: 1)
                                                                                                                                                 LinearLayer
                                                                                                                                                   Output
                                                                                                                                                                                                                                              vector (size: 1)
```

```
In[8]:= trained = NetTrain[net, training]
                  ネットワークの訓練
                                  Input
                                                        matrix (size: 10 × 1)
Out[8]= NetChain
                                  GatedRecurrentLayer
                                                        matrix (size: 10 × 10)
                                  LinearLayer
                                                        vector (size: 1)
                                  Output
                                                        vector (size: 1)
 \log = \text{trained}[\{146\}, \{166\}, \{171\}, \{180\}, \{193\}, \{181\}, \{183\}, \{218\}, \{230\}, \{242\}\}]
Out[9]= \{170.426\}
\label{eq:loss_loss} $$ \inf[10] = trained[{\{413\}, \{405\}, \{355\}, \{306\}, \{271\}, \{306\}, \{315\}, \{301\}, \{356\}, \{348\}}] $$ $$
Out[10]= \{419.099\}
In[11]:= KARA = { };
      Do[ten[j] = Transpose[{data[[j;; j+9]]}];
      反復指定
                    転置
         POINT[j+1] = Flatten[{j+10, trained[ten[j]]}];
         AppendTo[KARA, POINT[j+1]];
         追加割当て
         , {j, 1, Length[data] - 9}];
                   長さ
```

In[13]:= KARA

```
\mathsf{Out}_{[13]} = \{\{11,\, 146.005\},\, \{12,\, 148.384\},\, \{13,\, 154.043\},\, \{14,\, 152.733\},\, \{15,\, 149.675\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,\, 155.523\},\, \{16,
                \{17, 161.826\}, \{18, 161.324\}, \{19, 154.8\}, \{20, 147.85\}, \{21, 143.635\}, \{22, 148.877\},
               {23, 148.572}, {24, 153.2}, {25, 160.169}, {26, 157.611}, {27, 153.988}, {28, 165.515},
               {29, 178.668}, {30, 178.141}, {31, 169.697}, {32, 157.038}, {33, 151.441},
                {34, 163.134}, {35, 166.81}, {36, 170.5}, {37, 189.143}, {38, 178.864}, {39, 185.394},
                {40, 190.085}, {41, 207.775}, {42, 206.798}, {43, 192.736}, {44, 177.253},
               {45, 170.426}, {46, 184.077}, {47, 189.317}, {48, 197.348}, {49, 208.88},
               {50, 200.503}, {51, 203.552}, {52, 235.355}, {53, 247.444}, {54, 259.421},
               \{55, 222.652\}, \{56, 207.497\}, \{57, 196.816\}, \{58, 216.477\}, \{59, 221.142\},
                \{60, 224.186\}, \{61, 262.242\}, \{62, 261.353\}, \{63, 255.581\}, \{64, 269.731\},
                {65, 290.607}, {66, 296.684}, {67, 254.847}, {68, 227.914}, {69, 205.544},
               {70, 226.362}, {71, 232.893}, {72, 225.62}, {73, 267.634}, {74, 262.544},
               {75, 271.188}, {76, 300.107}, {77, 334.947}, {78, 323.594}, {79, 286.488},
                \{80, 257.585\}, \{81, 240.766\}, \{82, 268.237\}, \{83, 284.111\}, \{84, 281.457\},
                \{85, 312.74\}, \{86, 316.931\}, \{87, 320.468\}, \{88, 356.87\}, \{89, 391.209\}, \{90, 377.742\},
               {91, 347.895}, {92, 314.234}, {93, 286.835}, {94, 324.296}, {95, 331.825},
               {96, 329.374}, {97, 361.639}, {98, 360.013}, {99, 365.182}, {100, 401.731},
               \{101, 419.099\}, \{102, 414.636\}, \{103, 385.555\}, \{104, 348.394\}, \{105, 323.539\},
                {106, 353.7}, {107, 362.646}, {108, 355.396}, {109, 393.733}, {110, 390.044},
                {111, 395.554}, {112, 425.545}, {113, 435.133}, {114, 434.503}, {115, 414.878},
                \{116, 382.456\}, \{117, 353.657\}, \{118, 378.121\}, \{119, 382.336\}, \{120, 369.771\},
               \{121, 399.021\}, \{122, 392.516\}, \{123, 402.519\}, \{124, 430.4\}, \{125, 439.523\},
                \{126, 440.135\}, \{127, 415.804\}, \{128, 392.595\}, \{129, 362.063\}, \{130, 383.614\},
                {131, 399.563}, {132, 392.06}, {133, 423.03}, {134, 420.777}, {135, 429.228},
               \{136, 439.164\}, \{137, 444.35\}, \{138, 444.312\}, \{139, 434.974\}, \{140, 420.375\},
               {141, 402.343}, {142, 422.884}, {143, 427.846}, {144, 421.632}, {145, 431.336}}
```

In[14]:= PREDICTIONDATA = ListPlot[KARA, PlotStyle → Red]

